

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR PRELIMINARY PERMIT DELANEY PUMPED STORAGE HYDRO PROJECT

FERC PROJECT NO. P-15

Applicant:

Renewable Energy Aggregators

Agent:

Adam Rousselle Sr.

VERIFICATION

This Application for preliminary permit is executed in the

State of South Carolina

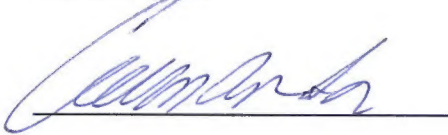
County of Charleston

BY: Adam Rousselle Sr.

2113 Middle Street Suite 202

Sullivans Island, SC 29482

Being duly sworn, deposes and says that the contents of this application are true and to the best of his knowledge or belief. The undersigned applicant has signed the application this 1 day of October 2019.



Adam Rousselle Sr.

Subscribed and sworn before me, a notary Public of the State of South Carolina this 1 day of October 2019.

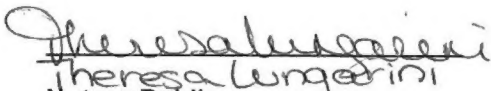
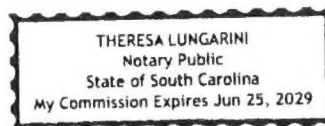

Theresa Lungarini
Notary Public

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Initial statement

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

Application for Preliminary Permit

- 1) Renewable Energy Aggregators applies to the Federal Energy Regulatory Commission for a preliminary permit for the proposed Delaney Pumped Storage Hydro Project, as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of application for a license for the project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license.

- 2) **The location of the proposed project is:**

State or Territory: County: Arizona Pinal
Township or nearby town: Delaney
Stream or other body of water: No Stream- Closed Loop

- 3) **Applicant's Contact Information**

The exact name, business address, and telephone number of the applicant are:

Renewable Energy Aggregators
Adam Rousselle Sr
2113 Middle Street Suite 201
Sullivans Island, SC 29482
Email: arousselle@reaggregators.com
Phone: 267-254-6107

The exact name and business address of each person authorized to act as agent for the applicant is:

Adam Rousselle
2113 Middle Street Suite 201
Sullivans Island, SC 29482
Email: arousselle@reaggregators.com
Phone: 267-254-6107

- 4) **Statement of Authority:**

Renewable Energy Aggregators is a Corporation located in Pennsylvania, it is organized under the laws of the Commonwealth Of Pennsylvania and as such, the Applicant is qualified under §4(e) of the Federal Power Act (FPA) to hold hydroelectric licenses issued under Part 1 of the FPA. The Applicant is not claiming preference under §7(a) of the FPA at this time.

- 5) **The proposed term of the requested permit is 36 Months.**

- 6) **Existing Dams or Other Project Facilities**

There are no existing dams or project facilities.

A: Additional Information (18 CFR 4.32)

- 1) **The Applicant intends to obtain and will maintain and proprietary rights necessary to construct operate or maintain the project.**
- 2) **The names and mailing addresses of entities affected or used by the proposed project are provided below.**

a) County in which the project would be located:

Maricopa County
301 West Jefferson Street
Phoenix, Arizona 85003

- 3) **City, Town or similar local political subdivision**

a) Every City, town or similar political subdivision in which the project would be located:

None

b) Every City, town or similar political subdivision that has a population of 5,000 or more people and is located within 15 miles of the project:

none

- 4) **Every irrigation district, drainage district, or similar purpose political subdivision:**

a) in which any part of the project, and any Federal facilities that would be used by the project, would be located, or (See Figure 3)

The project is not located in any irrigation district. The adjacent districts are:

Maricopa Stanfield Irrigation & Drainage District
41630 W Louis Johnson Dr
Maricopa, AZ 85329
520-424-3344

San Carlos Irrigation & Drainage District
PO Box 218
Coolidge, AZ 85228
520-723-5408

Hohokam Irrigation District
142 S Arizona Blvd
Coolidge, AZ 85228
520-723-7751

b) that owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project:

i. We are not aware of any.

- 5) **Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application:**
None

There are no political subdivisions in the general area that this applicant is aware of.

- 6) **All Indian tribes that may be affected by the project.**

The Applicant will advise the

Gila River Indian Community
PO Box 97
Sacaton, AZ 85147
(520) 562-9841

Secretary
Ak-Chin Indian Community
42507 W Peters & Nall Rd.
Maricopa, AZ 85238
(520) 568-4566

Secretary
Tohono O'Odham Nation
PO Box 837
Sells, AZ 85634
(520) 383-2028

Exhibit 1- Project Description

1.1 General Project Description

Based on current conceptual design, the Delaney Pumped Storage Hydro Project involves the construction of a closed loop Pumped-storage hydroelectric generating facility capable of producing approximately 200 MW for 12 hours per day would require about 11,250 acre-feet of active storage.

The basic configuration would include:

- As many as 2 ternary style **pump/generating units** contained in a powerhouse
- A newly constructed lower reservoir of approximately 2000 acres containing approximately 15,250 acre feet of water
- An Upper Reservoir of approximately 150 acres containing approximately 11,525 acre feet of water
- Penstock sufficient to provide hydrologic requirements. We anticipate 2,19 foot diameter penstocks 22,000 feet long
- The project will have an approximate net head of approximately 800 feet.
- Emergency Spillway locations shown are approximate and require additional survey information to properly determine their location.

The average annual generation from this project would be approximately 864,000 MWh and the cost of the studies vary from \$150,000 to \$400,000.

1.2 RESERVOIRS

The estimated number, surface area, storage capacity, and normal maximum surface elevation (mean sea level) of any reservoirs, whether existing or proposed, that would be part of the project:

The Project will require two reservoirs: one upper reservoir RCC dam based and a lower 2000 acres earthen dam reservoir.

Upper Reservoir

The dam will be an earthen and RCC dam. It will be approximately 75 feet high and have a drain elevation of 1800 feet msl.; the surface area will be 150 acres with a volume of 11,525 acre feet of water. The location and design of the spillways are site specific. Refer to Figure 1

Lower Reservoir

The lower reservoir will be a earthen dam structure. It will have an intake elevation of 1000 feet msl, the surface area will be 2000 acres and hold a volume of 15,250 acre feet of water. The location and design of the spillways are site specific. Refer to Figure 1

Penstocks, Powerhouses, & Tailraces

The penstocks and tailraces will be constructed to sizes, shapes and configurations based upon site investigations, optimized hydraulic analyses and the selected equipment and future studies. The powerhouse, egress, ventilation, safety, and other structures will be subject to site specific conditions and requirements. Refer to figure 2.

An initial engineering investigation suggests the construction of the following structures:

Penstocks and tailraces will be steel lined concrete as determined by the service requirements.

Penstocks: 2 - 19 ft. diameter x 22,000 ft. long.

Powerhouse: 750 ft. long x 175 ft. high x 70 ft. wide.

Tailrace: 2 - 21 ft. diameter x 3,000 ft. long.

Water source

The proposed project will request to utilize ground water.

1.3 EXISTING OR PROPOSED TRANSMISSION LINES

The estimated number, length, voltage, interconnections, and, where applicable, age and condition, of any primary transmission lines whether existing or proposed, that would be part of the project [see 16 U.S.C. 796(11)]; refer to figure 2.

- (1) The project will interconnect directly into the Delaney Substation within the project boundary.
- (2) The Applicant will conduct additional studies to determine the location, number of circuits, voltage, and configuration of the project's interconnection with the regional utility network.

1.4 GENERATING EQUIPMENT**Hydroelectric Plant**

- (1) Nominal Capacity 200 MW
- (2) Number of Units As many as 2
- (3) Composition Advanced Ternary Pumped Storage Single Runner
- (4) Operating head is approximately 800 feet

Powerhouse

- (5) Height approximately 175 feet
- (6) Length approximately 750 feet 2
- (7) Width approximately 70 feet

Average Annual Energy Production

Assuming a twelve-hour generation time and based on preliminary design of 200 MW, the Applicant anticipates an energy output of about 864,000 mWh annually.

1.5 LANDS OF THE UNITED STATES

- There are no known federal lands within the project boundary
- There are no known areas within or in the vicinity of the proposed project boundary that are included in or have been designated for study for inclusion in the National Wild and Scenic Rivers System.
- There are no areas within the proposed project boundary that are known to be under the provisions of the Wilderness Act.

1.6 PUBLIC INTEREST

- The proposed Delaney Pumped Storage Hydro Project will be achieved by installing a new closed loop hydroelectric generator which will utilize modern, Voith Hydro state-of-the-art Ternary Pump Turbine technology to optimize the clean, renewable electricity generating potential of site in a manner that best develops conserves and utilizes this resource for beneficial public use. The proposed project will fulfill the public interest for a less expensive, more reliable and environmentally sound source of renewable energy.
- The use of this existing water resource will also serve to utilize the region's potentially generous supply of renewable resources (RR), specifically solar and wind, which essentially consume zero water, to produce electric energy.
- Providing reliable peak energy on demand
- Creating Emergency and Pre-Emergency Load Response.
- Creating Quick Start Reserves and grid storage for the grid.
- Providing a means to store excess energy especially from intermittent renewable sources such as when demand is low and large thermal plants cannot shed load.
- Enhancing local economics through creation of jobs during construction and for operations.

EXHIBIT 2 DESCRIPTION OF STUDIES

2.1 STUDIES PROCESS

The Applicant has reviewed substantial topographical, parcel ownership, municipal, economic as well as the mechanical and environmental aspects of the project and conducted a field visit.

2.2. STUDIES TO BE COMPLETED

The studies and related work to be completed will provide the applicant with the necessary information to prepare the application for license and to progress the concept development plan to final design. All work will be conducted in a manner so as not to affect cultural resources or endangered species, if any, and to cause minimal disturbance to the land and water. Any land altered or disturbed will be adequately restored to the satisfaction of the owner. The applicant proposes to carry out the studies below to determine the feasibility of the proposed project and support an application for license. The project will study two sites, of which only one will be built. The alternate site is referred to in the last exhibit but its details of generation are not the principal subject of the application. There are provided for reference only.

As the studies are being conducted the applicant will consult with appropriate federal, state, municipal and local agencies. The exact scope and scheduling of studies will be coordinated in accordance with consultation related to the integrated licensing process.

2.2.1 GENERAL PLAN AND SURVEY

A general plan and survey of the proposed project will be prepared to delineate the site topographic characteristics and approximate size, location and elevations of existing and proposed facilities.

2.2.2 GEOTECHNICAL STUDIES

The applicant will have a geotechnical engineer review existing geotechnical information and perform a current review and analysis of the project site. The geotechnical engineer will also analyze the geotechnical suitability of the foundation material for construction of any potential location for powerhouse and other structures.

2.2.3 WATER QUALITY STUDIES

Data collection for water quality will consist of reviewing existing water quality and effects of the lower reservoir based on field sampling.

2.2.4 RECREATION STUDIES

Analysis will be performed to assess potential use of the project area for to ensure that do not interfere with current recreational activities.

2.2.5 HISTORIC AND ARCHAEOLOGICAL STUDIES

There are no records of archaeological studies. Should any such studies exist, the applicant will have a qualified cultural resources firm review any previous studies and other existing documents, as required, to determine if any additional studies are warranted at this time.

2.2.6 FISHERIES STUDIES

As this project is a closed-loop Pumped Storage Hydro Project, a fisheries study is not anticipated at this time.

2.2.7 PRELIMINARY DESIGN STUDIES

Preliminary engineering design of the proposed powerhouse and electrical faults will be prepared to delineate the scope, cost and schedule for construction. A projection of energy generation will also be made. The preliminary design data will be utilized in the economic analysis to be performed for the proposed project.

2.2.8 ECONOMIC ANALYSES

Economic analyses of the proposed project will be performed. The analysis will include estimates of power production and power sales rates. A transmission interconnection study will be performed to determine best location for interconnection and feasibility. The Economic criteria such as net revenue, net present value and benefit/cost ratio will be determined.

2.3 ROADS

No new roads will be built for the purpose of conducting the studies referenced herein.

2.4 NEW DAM CONSTRUCTION

The proposed project contemplates the construction of as many as two new reservoirs. Accordingly, The Applicant will be working with approved State of Arizona Dam consultants to properly determine the location, size and characteristics of the required reservoirs.

2.5 SCHEDULE FOR STUDIES

The following schedule has been developed for conducting the studies and consultations specified herein and leading up to the submission of a license application to the Commission at the conclusion of the requested 36-month term of the permit. This schedule assumes that a permit will be issued to the Applicant by November, 2019. Based on the work to be performed under the requested permit, the Applicant will make a determination as to whether it is appropriate to follow the Integrated Licensing Process or request a waiver for either the Alternative or Traditional Licensing Process.

Permit Issued	November 2019
Perform Studies	November 2019-June 2020
Complete Initial Environmental Analysis	August 2020
Initiate License Process	December 2020
File License Application at FERC	March 2021

EXHIBIT 3 COST AND FINANCING

3.1. ESTIMATED COSTS

The estimated costs of carrying out and preparing the studies, investigations, tests, surveys, maps, plans and specifications identified in Exhibit 2 is \$170,000.00 allocated as follows.

General Plan and Geotechnical Studies	\$100,000.00
Water Quality Studies	\$1000.00
Recreational Studies	\$7,500.00
Historic and Archaeological Studies	\$0.0
Fisheries Studies	\$0.0
Preliminary Design Studies	\$35,000.00
Economic and Market Analysis	\$35,000.00
Total	\$178,500.00

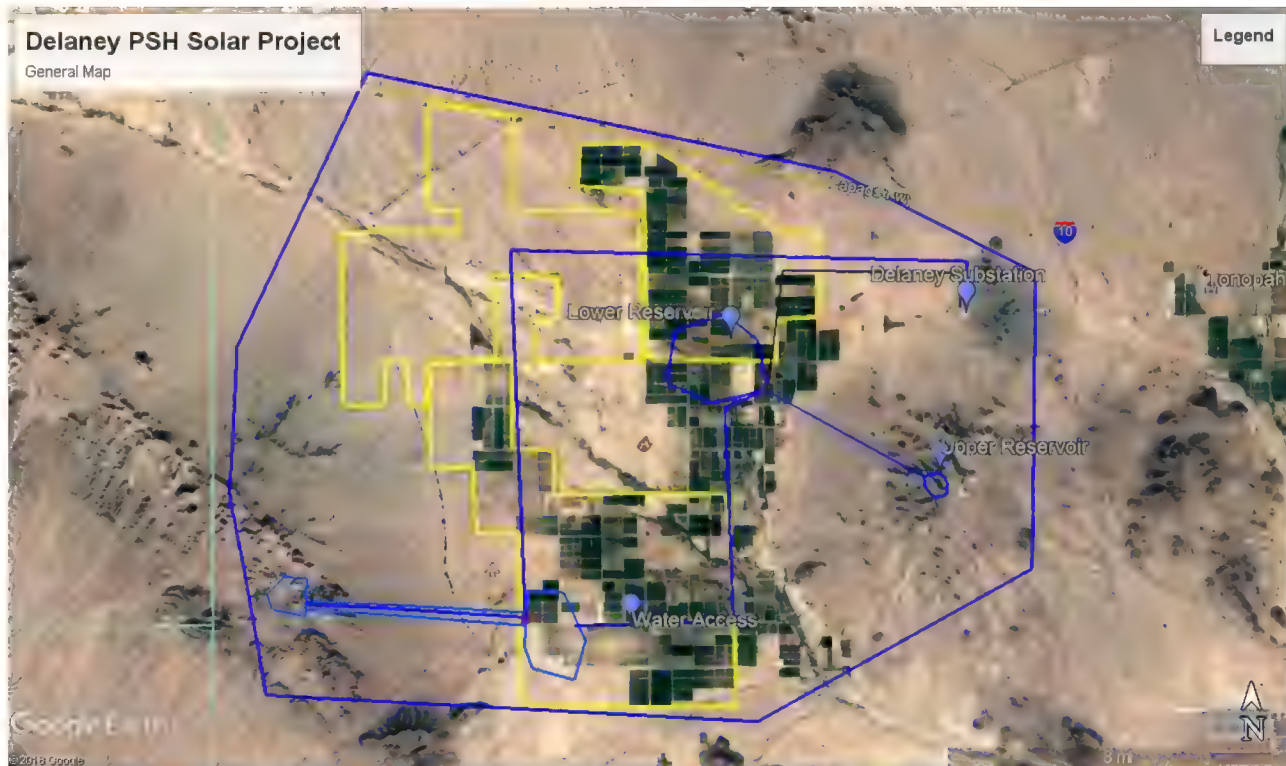
3.2. FINANCIAL SOURCES

The applicant will provide the necessary financing to conduct the activities identified in Exhibit 2.

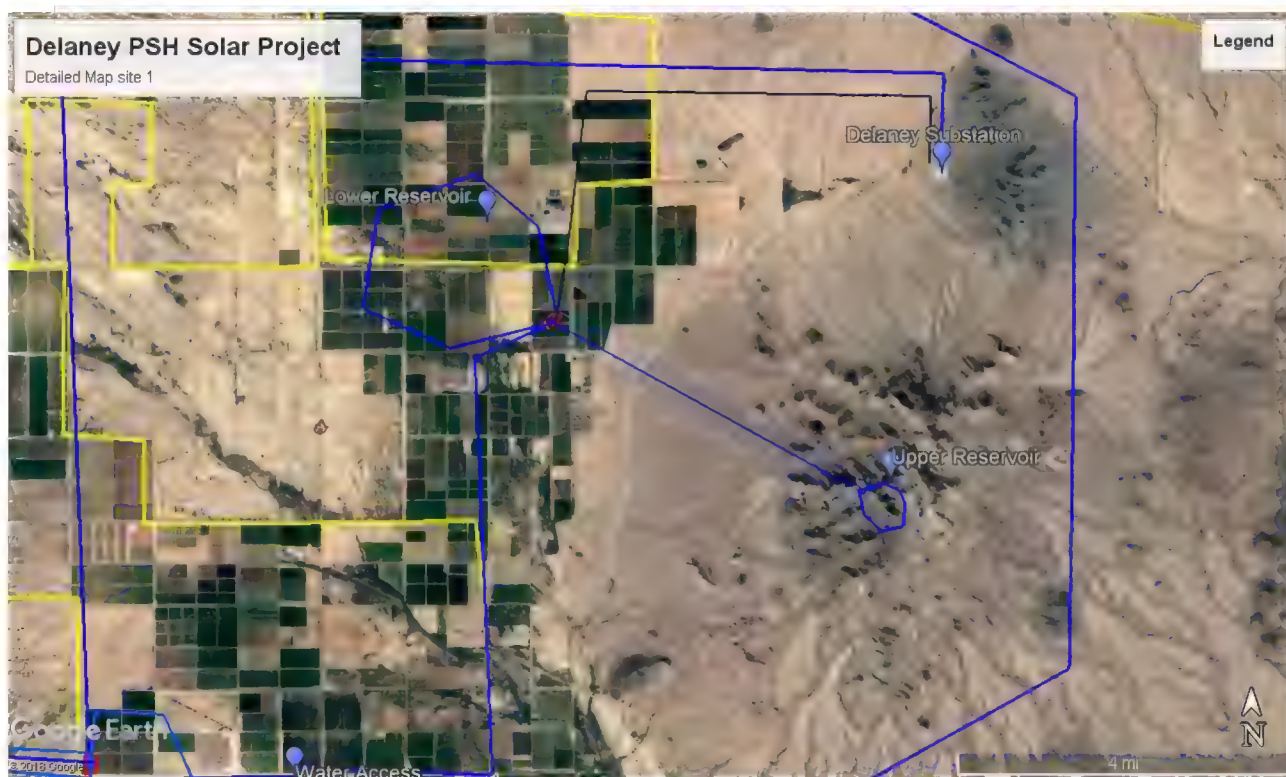
3.3. PROPOSED MARKET

Through the development of the proposed Delaney Pumped Storage Hydro Project, the applicant will provide an additional source of clean, renewable energy that will provide added stability and capacity to the local energy markets. It is proposed that the electricity generated at the Delaney Pumped Storage Hydro Project will be offered to the State or sold at market rates to either an electric utility marketer or for transmission to the electric grid. Based upon available feasibility and marketing studies conducted for the electric power market in the vicinity of the proposed project, project revenues are expected to be adequate to construct and operate the Delaney Pumped Storage Hydro Project and to yield a reasonable rate of return on investment.

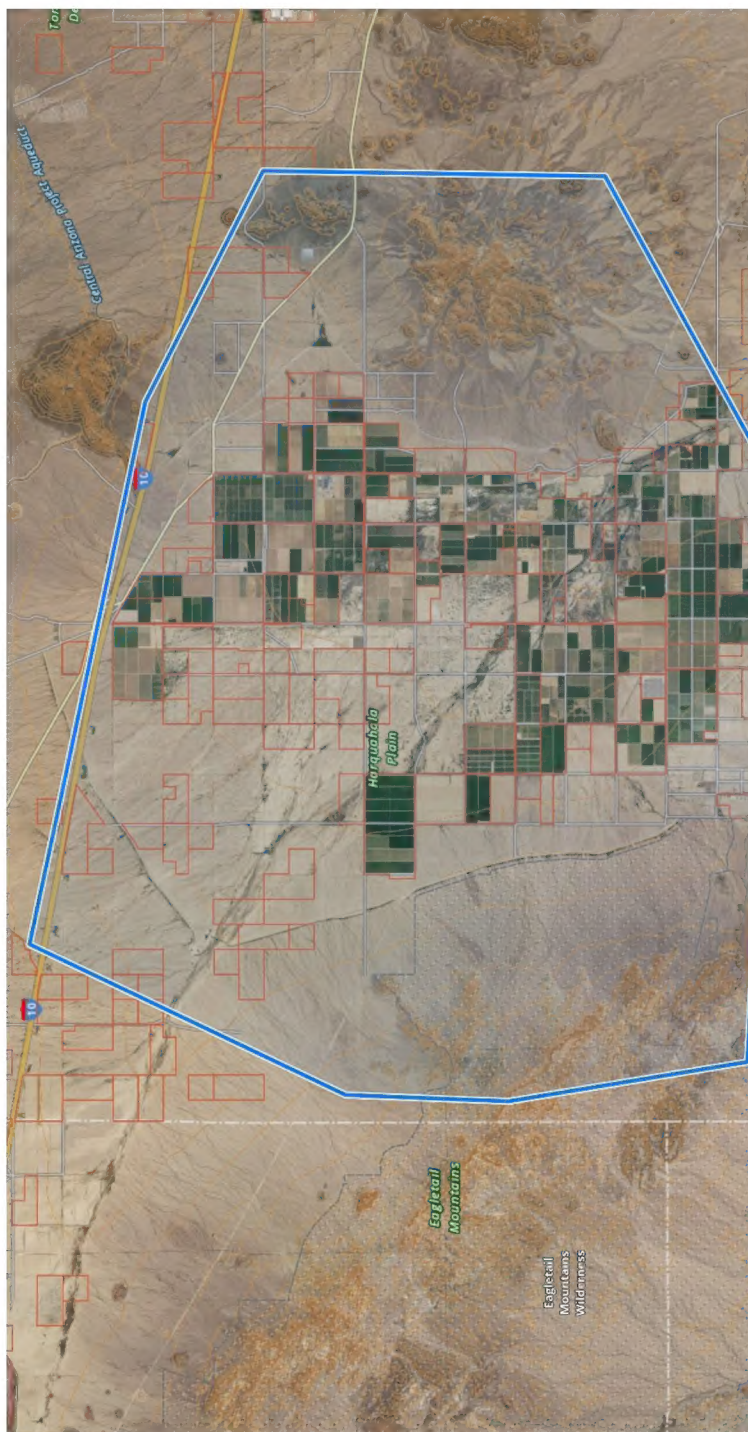
EXHIBIT 4 MAPS



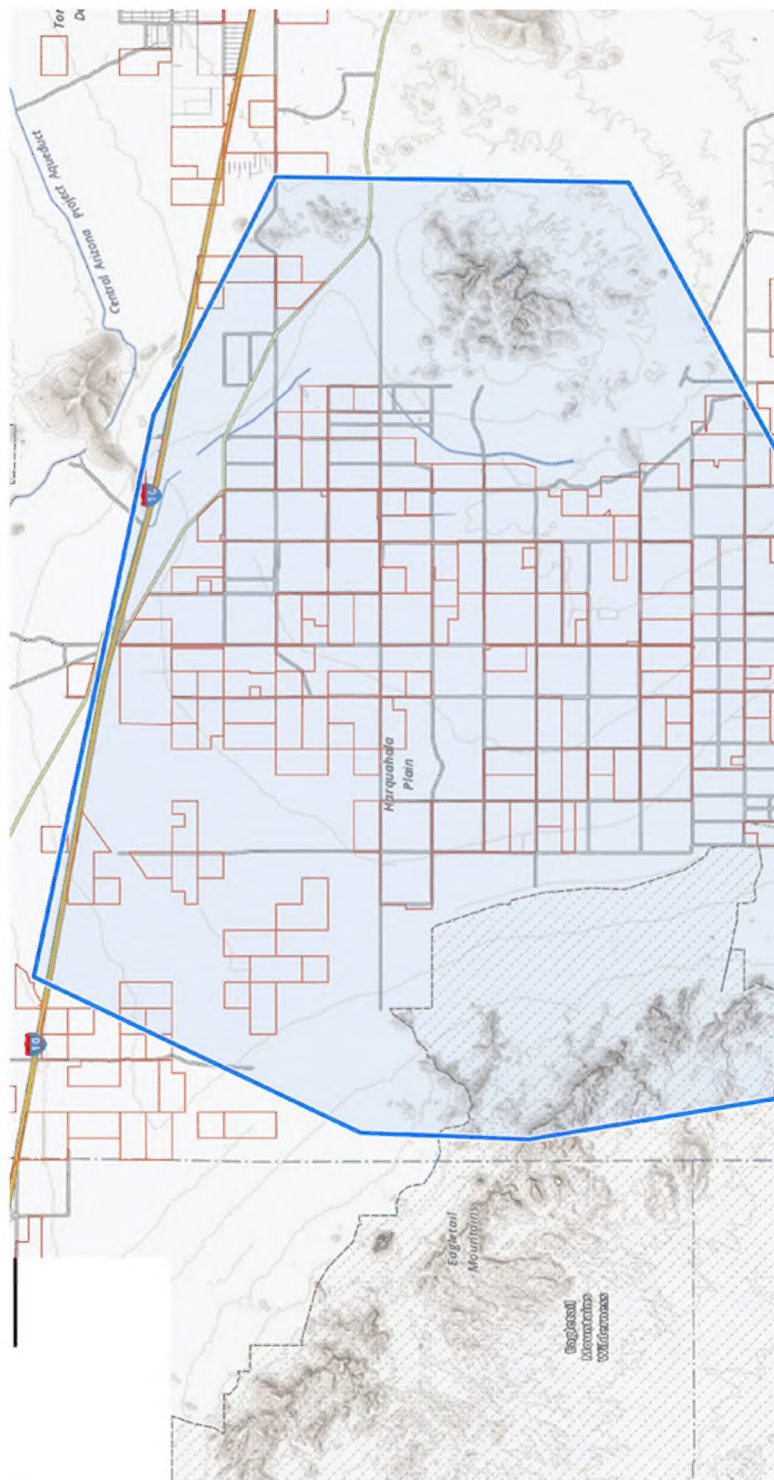
4.1 Figure 1 Delaney Project General Map



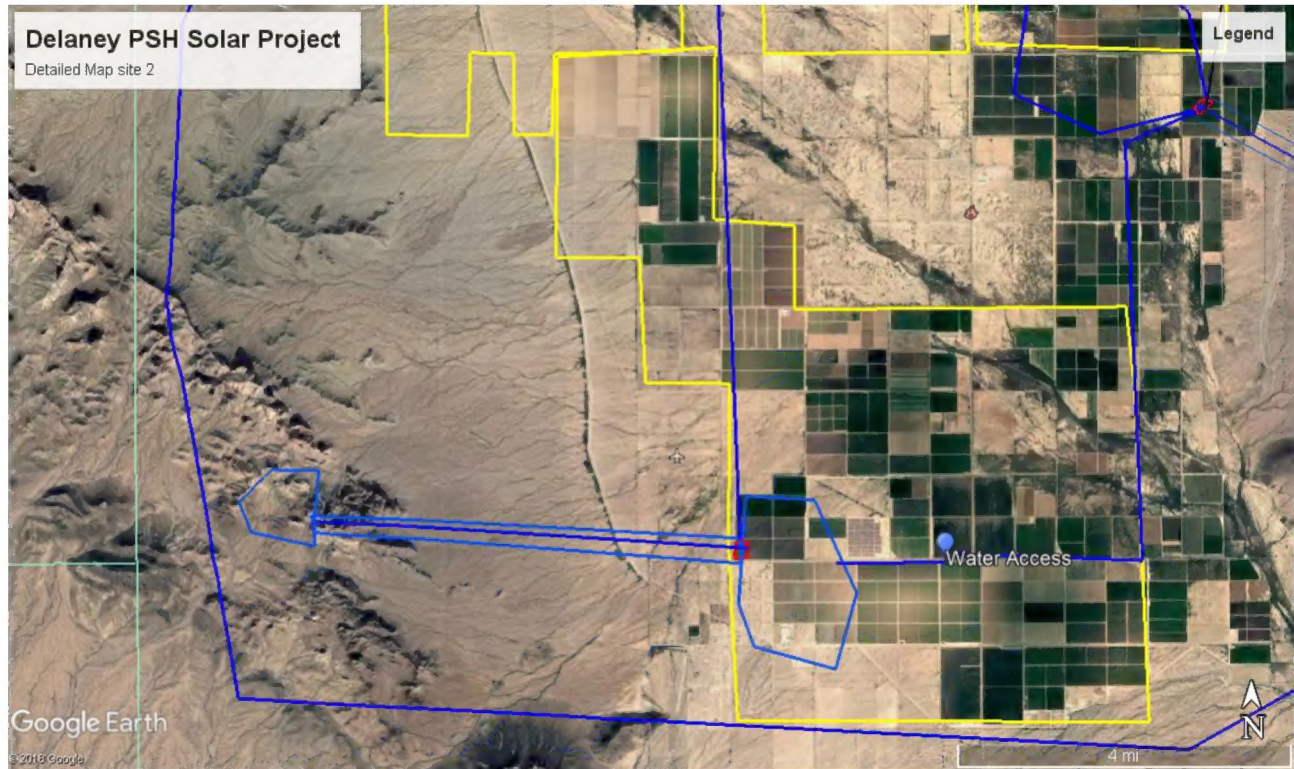
4.2 Figure 2 Delaney Detailed project Map



4.3Figure 3 Local Real Estate



4.4 Figure 4 TOPO of area



Alternate Upper and Lower Reservoirs under study

Document Content(s)

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